

THE EVOLUTION OF THE EUROPEAN UNION SCHEME FOR TRADING OF GREENHOUSE GAS EMISSIONS CERTIFICATES

CONTENT

INTRODUCTION

CHAPTER 1 – THE EVOLUTION OF SCIENTIFIC RESEARCH REGARDING CLIMATE CHANGE AND THE EUROPEAN UNION EMISSIONS TRADING SCHEME

2.1. CONCEPTUAL APPROACHES REGARDING CLIMATE CHANGE AND EUROPEAN UNION EMISSION TRADING SCHEME

2.2. SCIENTIFIC RESEARCH ON THE EVOLUTION OF THE EUROPEAN UNION EMISSION TRADING SCHEME IMPLEMENTATION

2.3. BIBLIOMETRIC ANALYSIS REGARDING CLIMATE CHANGE AND EUROPEAN UNION EMISSION TRADING SCHEME BASED ON ALLOWANCES

CHAPTER 2 – THE STRATEGIC FRAMEWORK ON THE EU EMISSION TRADING SCHEME

2.1. THE EVOLUTION OF INTERNATIONAL AGREEMENTS ON CLIMATE CHANGE AND THE DYNAMIC OF EUROPEAN UNION POLICY IN THE FIELD OF CLIMATE CHANGE

2.2. THE EUROPEAN UNION POLICY ON CLIMATE CHANGE AND ITS EMISSION TRADING SCHEME

2.3. THE CHARACTERISTICS OF THE EUROPEAN UNION EMISSION TRADING SCHEME IN PHASE IV

2.4. THE EVOLUTION OF THE EUROPEAN UNION EMISSION TRADING SCHEME IN CONSIDERING THE GREEN DEAL

CHAPTER 3 – THE NATIONAL STRATEGIC FRAMEWORK ON THE EU EMISSION TRADING SCHEME

3.1. THE CONNEXION BETWEEN THE NATIONAL INTEGRATED CLIMATE CHANGE AND ENERGY PLANS AND EUROPEAN UNION EMISSION TRADING SCHEME

CHAPTER 4 – DATA ANALYSIS REGARDING THE EVOLUTION OF THE EUROPEAN UNION TRADING SCHEME

4.1. THE STRUCTURE OF THE GREENHOUSE GAS EMISSIONS GENERATED BY THE EMISSION TRADING SECTOR

4.2. THE EVOLUTION OF THE GREENHOUSE GAS EMISSIONS GENERATED BY THE EMISSION TRADING SECTOR DURING 2013-2023

- 4.3. THE ECONOMICAL – ENVIRONMENTAL EFFECTS OF THE FREE ALLOCATION OF ALLOWANCES
- 4.4. SCENARIOS ON THE EMISSIONS CAP FOR 2030 CONSIDERING THE GREEN DEAL
- 4.5. THE STATUS OF MODERNIZING THE NATIONAL ENERGETIC SYSTEM THROUGH THE SPECIFIC MECHANISMS OF THE EUROPEAN UNION TRADING SCHEME
- 4.6. STUDY ON THE FUNCTIONING OF THE INNOVATION FUND

CHAPTER 5 – EMPIRICAL ANALYSIS ON THE EUROPEAN UNION TRADING SCHEME

- 5.1 THE DYNAMIC OF THE ALLOWANCES PRICES AND THEIR VOLATILITY
- 5.2. MODELING THE IMPACT OF THE ALLOWANCES PRICES ON THE ENERGY PRICES
- 5.3. ANALYSIS ON THE AUCTIONG REVENUES AND THEIR USE, AT THE EUROPEAN LEVEL AND IN ROMANIA

CONCLUSIONS AND PROPOSALS

Keywords: CO₂ emissions, ETS, CO₂ allowances prices, energy prices

As to ensure the achievement of the United Nation Climate Change Framework Convention main objective, starting 2003 European Union implemented the greenhouse gas emission trading scheme. The scope of the current scientific research is to determine the greenhouse gas emission reduction, as well as to present how the increase in the energy prices is reflected by the increase in the allowances prices considering the EU emission trading scheme.

The uniqueness approach stems from the development of a general analysis by multifaceted highlighting of the carbon market and the study of the factors generating the energy prices while emphasizing the role of the allowances prices based on the Random Forest regression model. This was used because it is a non-parametric model which do not imply the regular distributed data as it is consider robust to those kinds of distributions particular to the analysis` data.

The conclusions of the research present the decreasing profile of the CO₂ emissions at UE and Romania`s level during 2013-2023 which reflects the energy emissions profile while

considering the high volatility of the allowances market and the fact that the allowances prices have an impact on the energy prices. There is a major budgetary impact of the allowance trading, but these billions revenues require an improved management at Romania`s level while considering the economic, social and environmental needs.